

CLAIM AMENDMENTS

1 - 12. (canceled)

1 13. (currently amended) A reactor for gasifying granular
2 fuels, the reactor comprising:

3 a casing provided in an upper portion with

4 a vertical annular wall and

5 a partition defining with the wall a generally

6 closed annular chamber;

7 means including a reservoir holding the granular fuel and
8 opening into the casing within the annular wall for forming in the
9 casing below the partition a fixed bed of the granular fuel having
10 an upper surface spaced below the partition;

11 means for introducing an oxygen-containing gasification
12 medium into the bed below the surface thereof such that the
13 gasification medium moves up through the fixed bed of granular fuel
14 and creates an endothermic reaction in the fixed bed with partial
15 oxidation of the bed and the creation of a product gas containing
16 hydrogen and carbon oxides rising from the surface of bed, whereby
17 the product gas entrains particles upward from the surface out of
18 the fixed bed into a generally empty region below the partition,
19 above the upper surface, and outside the annular wall;

20 at least one centrifugal separator in the casing and at
21 least partially imbedded in the bed for separating particles from
22 the product gas, the separator having an upper inlet opening in the

23 empty region above the fixed bed of granular fuel for taking in the
24 particle-laden product gas coming from the fixed bed of granular
25 fuel, an outlet for product gas projecting through the partition
26 and opening into the annular chamber, and a lower solid discharge
27 opening directly into the fixed bed below the surface thereof; and
28 means including a discharge duct connected to the annular
29 chamber above the surface and via the chamber to the outlet of the
30 separator for withdrawing the product gas from the casing.

1 14. (currently amended) The reactor for gasifying
2 granular fuels defined in claim 13 wherein there are a plurality of
3 the centrifugal separators in the casing and the discharge duct is
4 ~~formed as an~~ extends horizontally from the annular chamber ~~disposed~~
5 ~~in an upper portion of the reactor above the bed surface.~~

15. (canceled)

1 16. (currently amended) The reactor for gasifying
2 granular fuels defined in claim ~~[[15]]~~ 13 wherein the centrifugal
3 separator is disposed outside the portion enclosed by the annular
4 wall.

1 17. (previously presented) The reactor for gasifying
2 granular fuels defined in claim 13 wherein the centrifugal
3 separator is a cyclone.

1 18. (withdrawn) A method of gasifying granular fuels,
2 the method comprising the steps of:

3 forming in a casing a fixed bed of the granular fuel
4 having an upper surface;

5 positioning in the casing at least one centrifugal
6 separator at least partially imbedded in the fixed bed and having
7 an upper inlet opening in the casing directly above the fixed bed
8 of granular fuel, a lower particle-discharge opening directly into
9 the fixed bed below the surface thereof, and a gas outlet; and

10 introducing an oxygen-containing gasification medium into
11 the bed below the surface thereof such that the gasification medium
12 moves up through the fixed bed of granular fuel and creates an
13 endothermic reaction in the fixed bed with partial oxidation of the
14 bed and the creation of a product gas containing hydrogen and
15 carbon oxides rising from the surface of bed and gas entraining
16 particles upward from the surface out of the fixed bed; and

17 withdrawing gas from the separator gas outlet and thereby
18 drawing the particle-carrying product gas into the separator inlet
19 and centrifugally separating the particles from the product gas
20 with the particles dropping through the particle discharge directly
21 into the bed and the product gas being drawn out through the gas
22 outlet.

1 19. (withdrawn) The gasifying method defined in claim
2 18, further comprising the step of:

3 subdividing a space in the casing above the upper surface
4 of the bed into a central chamber and an annular chamber
5 surrounding the central chamber;

6 the bed being formed by pouring the granular fuel into the casing
7 through the central chamber, there being a plurality of the
8 separators with their gas outlets all opening into the annular
9 chamber, the gas being withdrawn from the separator gas outlets via
10 the annular chamber.